

ABSTRACT OF THE DISCLOSURE

In the method of detecting a sun gear fault, in the operation of an epicyclic gear train having ring, planet and sun gears, and a planet carrier, the steps that include detecting sun gear vibrations transmitted through each planet gear, computing separated averages of such detected vibrations, phase shifting said averages to account for the differences in gear meshing positions, and re-combining said phase shifted averages to produce a modified average value of the sun gear vibration.